

REMARKS

Claims 1-26 remain in the application. Claims 27-34 were previously withdrawn.

We thank the Examiner for the communication of August 24, 2005. We have now carefully considered the thoughtful opinions therein, but respectfully request reconsideration of the application and claims as now amended.

Claims 1-7

Sequeria (U.S. Patent 6,185,585) teaches a method of partitioning a related collection of rendered HTML pages (501) into multiple non-overlapping regions (540), displaying these partitioned regions one at a time, and then mapping a hyperlink in one of the displayed partitioned regions into a Command Tag that requests the display of one of the other non-overlapping partitioned regions. Sequeria further teaches a method of adding an additional visual navigational link to be displayed beside a partitioned region, which contains a link for navigating to an adjacent non-overlapping partitioned region.

In accordance with Sequeria, the process begins on a Head-End (122) device that renders each of the collection of HTML pages into bitmap images. None of the original rendered HTML pages are ever displayed. They only exist as a set of partial bitmap images in the memory of the Head-End (122). As stated in Col. 7, lines 11-13 of Sequeria, "HTML pages are flattened and divided into partitions", and "the HTML page is rendered, converted into a bitmap and partitioned so that each partition can be displayed by Client 124 as a separate image" (Sequeria, Col. 7, lines 22-25).

Thus, Sequeria teaches a method where neither original Web page 620 nor original Web page 640 is actually displayed to the user as a complete page. Instead, these pages are generated as bitmap memory images at the Head-End (122) and divided into non-overlapping regions (e.g. 620a-620c) that are each displayed individually to the end user on Monitor 126 attached to Client 124.

One difference between the Applicant's claimed invention and Sequeria is, thus, that the claimed invention requires actually displaying two or more content representations at the same time.

Furthermore, as to any transformations that might be implied in the diagrams between any of the non-overlapping partitioned regions shown as 620a-c, 640a-b or 660a, Sequeria makes no mention of any spatial transforms applied to these non-overlapping regions. There is no process step defined in the text, and neither are there any figures that define, describe or even imply a spatial transform being applied to any of the partitioned regions before being displayed on Monitor 126.

The only image transforms described are color space transforms, which have no effect on spatial resolution. The only comment made by Sequeria related to the image size of the displayed partitioned regions is: "Preferably, Head End 122 divides the bitmap image so that it is able to be displayed fully on one screen of Monitor 126. For a television set, the bitmap would be partitioned into television screen sized physical partitions."

More particularly, in the method taught by Sequeria, the only logical relationships among the partitioned regions consist of Command Tags. These determine which partitioned region should be displayed next. A sub-region of a partitioned region is mapped to a Command Tag, which is used to determine which of the other partitioned regions should next be displayed. Each mapped sub-region corresponds to the rendered image of a hyperlink or anchor tag in the original rendered image, and this original rendered image remains only in the memory of Head-End 620; it is never displayed to the user.

There is also no commonality of visual content between or among any of the partitioned regions in Sequeria. In Figure 6, there is no visual content overlap between or among figures 6(20a-c), nor between Figures 6(40a-b). All of the text describes a process of dividing a rendered bitmap image into partitioned regions, with no mention of any visual overlap in these

partitions. In Col. 6, lines 6-18, the text describes the action of the Command Tags, as described in the above paragraph, which defines logical relationships among partitioned regions, but has no commonality of visual content among these partitioned regions.

Similarly, the additional navigation buttons described by Sequeria in Col. 8, lines 22-27, are for navigating between adjacent non-overlapping partitioned regions. They only define logical relationships between these partitioned regions. They do not involve any visual content that is common between these partitioned regions.

It should be further noted that the teachings of Sequeria require that an entire set of related HTML pages be processed, rendered and partitioned before displaying any of the partitioned regions. This is because the destination field in a Command Tag refers to one of the other partitioned regions, and not to a general URL that could specify an arbitrary Web page to be retrieved and rendered.

Because an HTML page can reference many other Web pages, the method of Sequeria is limited to processing hyperlinks that reference a subset of related pages. This limitation of the method of Sequeria is described as follows: "It is possible that following links for each gathered page can lead to an unmanageable number of pages, and thus the number of levels of HTML pages gathered should be limited. This can be accomplished, for example, by the use of a user defined parameter which specifies the number of levels down a Web site that Collection Step 201 processes. Another parameter may limit collection of Web page links to just those available on a specific Web site."

Sequeria teaches a method that relates logical partitions of the source content (based on its HTML coding) to physical partitions of the rendered bitmap image rendered from the source content. But the nature of HTML coding places considerable constraints on the results achieved by such a partitioning method.

Using the method taught by Sequeria and starting with the entire HTML source content for a given HTML frame, two different results can be achieved. In one case, the entire HTML source content for a given frame can be rendered into a single bitmap image, and that rendered image can be partitioned into a set of non-overlapping regions. This case is the one that most closely resembles the description and the figures referenced in the method taught by Sequeria. The single bitmap image generated by the Head-End closely resembles a desktop rendering of this Web page, and each non-overlapping partitioned region can be displayed to the end user.

The second case is to logically partition the HTML source content for a given frame, and then individually render non-overlapping bitmap images from each logical partition one at a time. In this second case, the rendered layout of each individual logical partition can vary considerably from the rendering generated in the first case. Therefore, a composite image of these partitioned regions can also vary considerably from the single bitmap image rendered in the first case. For the end user, this destroys the visual integrity associated with a desktop rendering of the Web page. This can severely impair the utility of the Web page to the end user, since important visual cues and information content embedded in the overall layout can be lost.

The reason why the second case can produce dramatically different visual results from the first case requires an understanding of HTML coding and the HTML rendering process. The Document Object Model described by HTML coding divides a document into a hierarchy of logical blocks, and allows a plurality of logical blocks within a given hierarchy level. The rendering process determines the layout of these logical blocks. But the layout process introduces interdependencies in the rendered bitmap image between logically unrelated blocks. "Logically unrelated" means any two blocks defined within two different parts of the hierarchy, at either different hierarchy levels or in different sequences within corresponding hierarchy levels.

During the rendering process, the layout and visual placement of any one of these logical blocks can change the layout and visual placement of logically unrelated logical blocks. This interdependence is determined during the layout and rendering process, based on the physical

proximity in the rendered image of the logically unrelated blocks. For example, the rendering of a table defined in one logical block can influence the rendering of a text paragraph in a logically unrelated block, depending entirely on where these two unrelated blocks happen to be placed within the total page layout.

These relationships in the rendered bitmap image cannot be deduced a priori from the logical structure of the HTML coding, but are only determined during the rendering process. Optional Cascading Style Sheet (CSS) coding in the HTML adds an additional level of interdependence in the layout process, allowing visual effects such as overlays, transparency and partial occlusion among rendered blocks that are logically unrelated.

Sequeria acknowledges this interdependency as follows: "In order to generate the logical partitions for either embodiment, Head End 122 must either first, or concurrently with Step 510, generate the necessary rendered and bitmap data described with respect to Step 530. Although it is possible for Head End 122 to process Step 530 after Step 510, it would be inefficient to do so since some of the information generated in Step 530 would also be needed in Step 510 to generate the logical partitions."

The interdependency of layout across logically unrelated logical blocks is a well known problem in the art of designing Web pages. Considerable skill in the art of HTML coding is required to control the final layout of a Web page by understanding both the interaction of logically unrelated blocks during the rendering process, and how different HTML rendering engines (e.g. Internet Explorer vs. Netscape or Mozilla) will manage these interdependencies during the rendering process.

In summary, the method taught by Sequeria has the following limitations, all of which are addressed by the Applicant's invention:

1. Sequeria divides a Web page into a series of non-overlapping bitmap regions, and these non-overlapping bitmap regions are displayed to the user one at a time. This

compromises the benefits of presenting to the user the overall visual layout of the original Web page, as visual relationships between and among the non-overlapping regions are lost.

2. If the non-overlapping regions are generated from different logical partitions (as described above in the second case of using the Sequeria method), each rendered region can vary considerably from the corresponding desktop layout of the same content. This further compromises the design aesthetic and visual information content of the original Web page design.

3. Sequeria requires processing as a group a set of related Web pages, in order to generate the Command Tags that link together the rendered non-overlapping regions. These Command Tags are generated from URL hyperlink tags and anchor tags. This limits the available URL hyperlinks on any given Web page to those that reference already processed or simultaneously processed Web pages. This limits the flexibility and utility of having arbitrary hyperlinks on a Web page, and can limit user responsiveness if simultaneous processing is required before presenting any of the non-overlapping regions to the user.

The teachings of Sequeria are thus considerably different, in at least for ways, from the method described and claims in the present application. In the present invention

- (i) at least two representations are derived from the original visual content input description (e.g. HTML),
- (ii) a relationship is defined between the representations,
- (iii) both representations are then displayed (at least in part) to the user, and
- (iv) a mapping is maintained between the two distinct representations of the same visual content source.

Claim 1 is thus patentable over Sequeria.

Claim 2 depends from Claim 1 and is patentable for additional reasons. For Example, Claim 2 further requires the relationship to be a spatial resolution relationship. As discussed above, Sequeria never discloses or suggests spatial resolution relationships in his partitions.

Applicant's Claim 5 furthermore specifies that the "second portion of the visual content includes visual content that is common to the first portion of the visual content". While the method of Sequeria does provide for inserting a navigational link into one partitioned region that references another partitioned region (as forward and back links among partitions), Sequeria makes no provision for two representations that share common visual content.

In the present invention, one of the rendered representations can display an image of the original rendered Web page that is scaled so that the entire original layout is displayed to the user either as a single screen image. In another embodiment of the present invention, the user can pan over a scaled image representation of the Web page. In further embodiment of the present invention, the user can pan over a non-scaled version of the original rendered Web page.

In all cases, the original visual layout is available to the end user for viewing in a continuous fashion (as a single image, or through panning) rather than partitioning into discrete non-overlapping regions that must be retrieved and displayed one at a time. The benefits of displaying two rendered representations of the same original visual content, and preserving the relationships between these rendered representations, is unique to the present invention. At least Claim 5 should be allowed.

Claims 9-12

In Col. 7, lines 65-67, Sequeria describes a single displayable representation that is taken from a Web page that consisted only of text. It then describes a color space transform of this original rendered image to a four bit color resolution. But Sequeria does not describe a text-based representation of a Web page that originally contained both text and non-text data such as images, tables or other types of non-text content. No transform of the logical content is

described or implied, and there is no description or implication of extracting a purely text-based representation from any arbitrary Web page. This differs considerably from the present invention as recalled in Claim 9, which requires a text based representation of the content to be maintained.

Furthermore, Sequeria does not describe two displayable representations that contain portions of the same original visual content. In Col. 7, lines 65-67 the original rendered image is never actually displayed to the user. As discussed above, there is also no provision in the method taught by Sequeria to have any two partitioned regions that contain common portions of the original visual content.

In relation to Applicants' Claim 11, the PC window environment of Sequeria Figure 1 (as described in the Col. 4 line 10-12) is a system that depicts a traditional PC-based Internet connection. In Col. 4, lines 34-36 the method of Sequeria is described as follows: "In contrast, System 120 depicts a broadcast system where there is no, or limited bandwidth, return channel from Client 124 to Head End 122." It is thus a broadcast System 120, and not a traditional PC window environment that is the subject of the method taught by Sequeria.

Since the PC window environment is not within the scope of the Sequeria system, and is specifically defined in Sequeria as outside the scope of Sequeria, the display of scrolling text is neither described nor implied by the method taught by Sequeria.

The display of both an image-based representation of the original visual content, combined with the extraction and display of a text-based representation of the same original visual content, is a unique feature of the present invention. By maintaining the correspondences between these two representations, it allows the user to easily switch between the benefits of preserving and viewing the original visual layout while also having the convenience of viewing a text-based representation of the same visual content with a layout that fits well into a device that has a different image resolution from a traditional PC.

Furthermore, the display of pop-up text over a scaled version of the original layout allows the user to use the scaled original layout as a visual map of the Web page scaled to the display size, while accessing portions of the content (including firing hyperlinks) as a text-based representation. These benefits are unique to the present invention, and not anticipated by the method taught by Sequeria.

Claim 8

The method taught by Clifton-Bligh (US 6775659) defines a way to draw pictures of the abstract relationships among a set of Web pages. In these abstract pictures of relationships, there is no use of any rendered images of any of the Web pages. The scaling described in the method taught by Clifton-Bligh is not an image scaling operation it is instead a scaling operation applied to the drawing of an abstract relationship diagram.

In the method taught by Clifton-Bligh, the scaling operation is a measure of an abstract "distance" as defined by the number of hyperlink clicks required to go from Web page A to Web page B. This has no relationship to scaling based on the dimensions of pixel regions in a rendered Web page.

The scaling taught by the method of Clifton-Bligh is merely scaling of a vector drawing that represents a set of abstract relationships. This type of scaling is applied in the geometric domain rather than the image domain, and is done before this abstract relationship map is rendered to an image.

While both Clifton-Bligh and Sequeria describe inventions that define processing steps applied to a collection of Web pages, their methods and the uses of their methods have absolutely no relationship to another. One is an abstract map of the relationship among a set of Web page hyperlinks, the other is a visual representation of a portion of the rendered content of a single Web page. No one skilled in the art would ever consider combining their teachings.

Claim 8 is thus patentable.

Claims 13-26

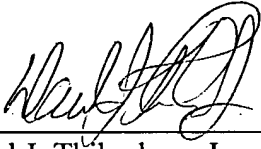
Claims 13-26 are similar to Claims 1-12 and thus are allowable for the reasons stated above.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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